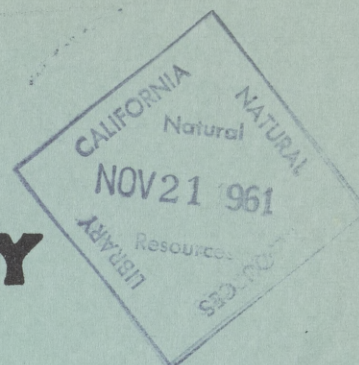


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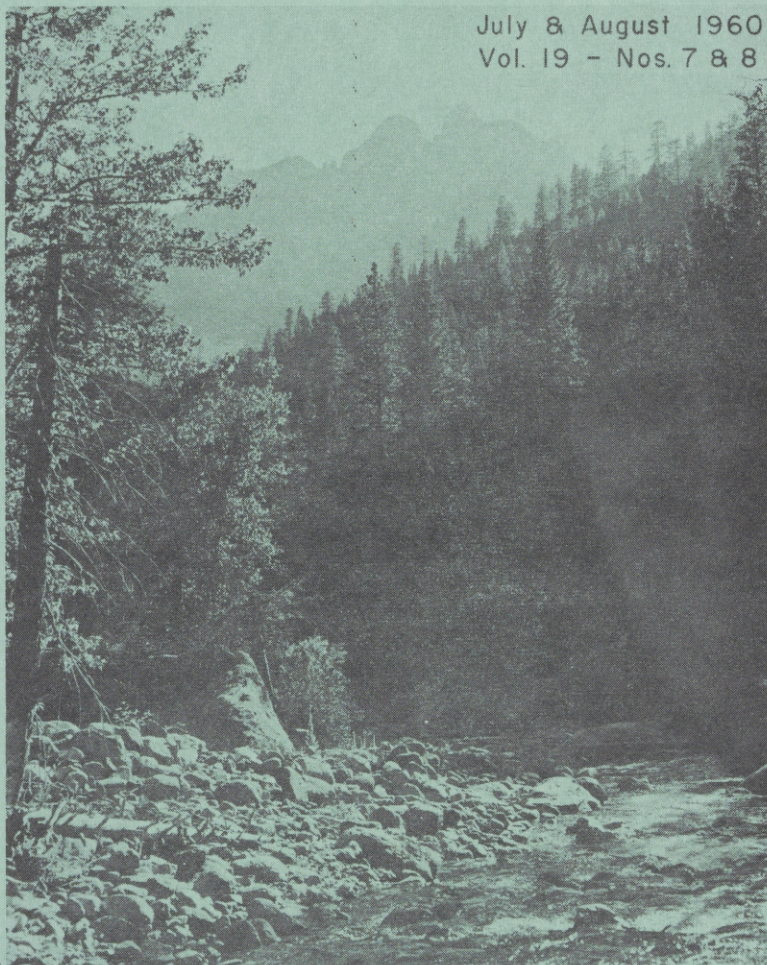
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DIVISION OF FORESTRY NEWS LETTER



Published monthly in Sacramento for and by Division personnel. Its pages contain current facts, problems, and events relating to Forestry and to the experiences of Division personnel.

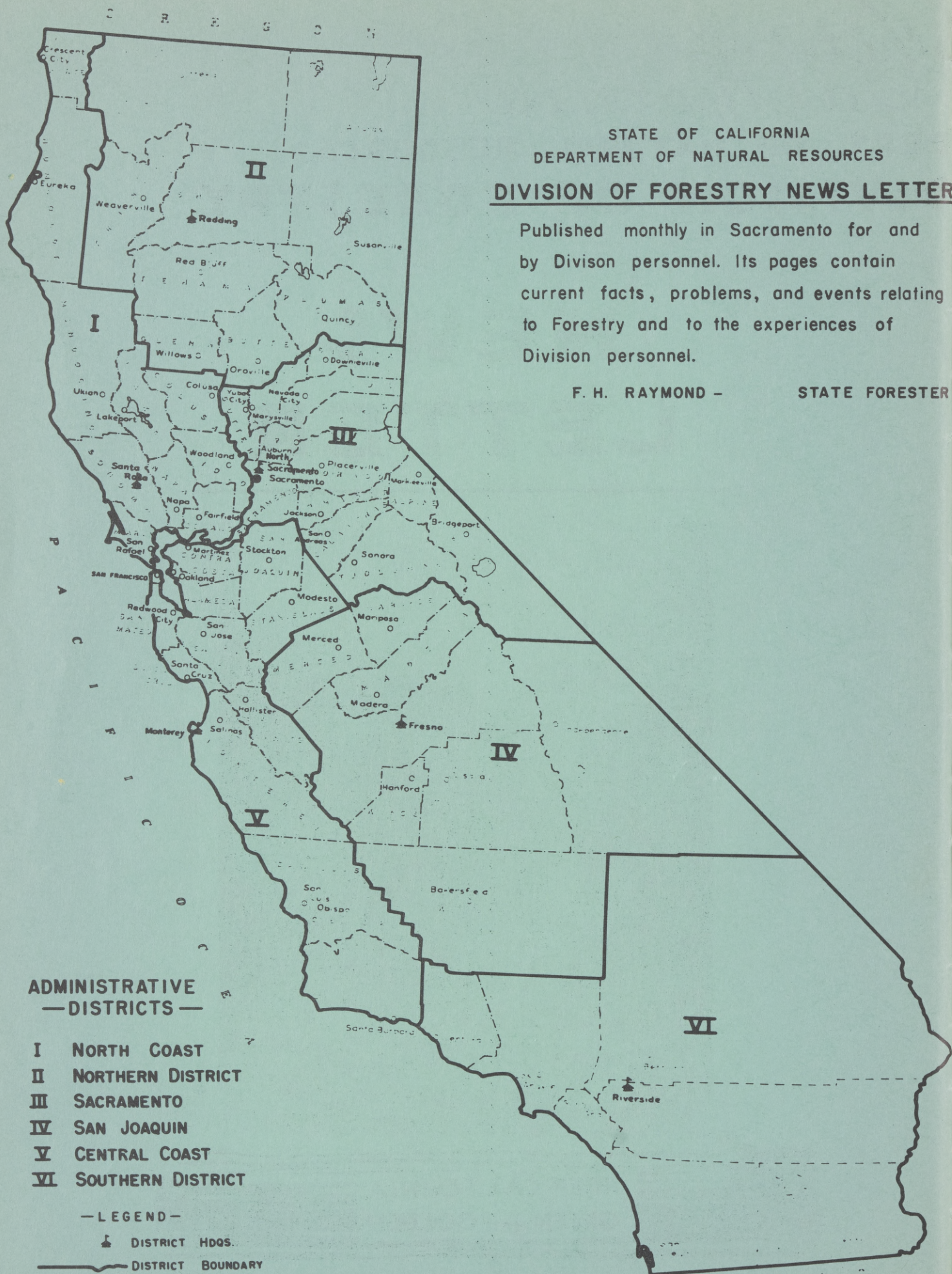
F. H. RAYMOND - STATE FORESTER

**ADMINISTRATIVE
— DISTRICTS —**

- I** NORTH COAST
- II** NORTHERN DISTRICT
- III** SACRAMENTO
- IV** SAN JOAQUIN
- V** CENTRAL COAST
- VI** SOUTHERN DISTRICT

— LEGEND —

-  DISTRICT HDQS.
-  DISTRICT BOUNDARY



FIRE SUPPRESSION: Fire weather conditions during June were high lighted by several days of abnormally high temperatures, other periods of strong northerly winds and still other periods of lightning activity scattered about the state. Lightning strikes were numerous in the Sierra Nevada and in the Coast Range. Fire fighting forces were active in as much as there were 198 forest fires and 190 non-forest fires on those lands of State responsibility (Zones I and II) that are protected by the Division of Forestry. The forest fires blackened 6,371 acres of timber, watershed, and range lands and caused \$174,030 damage; the non-forest fires caused \$234,915 damage to structures, vehicles, livestock, etc.

On lands of County responsibility (Zone III), where fire protection is provided by the Division through contracts with the Counties, there were 820 fires that burned 1,550 acres and caused \$493,484 damage.

In addition to the areas mentioned above, State crews, Conservation Camp crews and Insulation crews assisted the Nevada-Klamath Canyon National Park on a 3,200 acre fire. Several large fires on the National Forests plus mutual aid to many of the City Fire Departments, Fire Protection Districts, Military Reservations, Independent Counties, and a few other State Agencies.

COVER PHOTO

Sierra Buttes in Sierra County

In the last ten days the lookout on the Buttes could see seven major forest fires that have blackened over 100,000 acres in Plumas, Sierra, and Nevada Counties.

bottom will be delayed several days.

Representatives from the State Forester's Office and the El Dorado County Fire Department attended a one-day meeting with all of the Fire District Chiefs in El Dorado County to discuss mutual matters pertaining to fire protection districts, volunteer fire organizations, and the Division's County Fire Schedule A Program.

Sierra County has contracted with F. J. Van Fleet Company to have a new fire truck built for the Schedule A Program in that County.

Forestry was represented at a meeting of the Northern Section of the California Fireman's Association at Hobart's Resort in Lake County.

Most of the 24 counties with which the Division has Schedule A Agreements in 1952-53 have renewed their agreements for 1953-54. There is no indication that any of the Schedule A Agreements will be discontinued.

The Engineering Section of the Pacific Fire Rating Bureau - formerly the Board of Underwriters of the Pacific is now located at 465 California Street, San Francisco. Mr. J. J. Hays has advised the Division that this section of the Rating Bureau will continue to carry on the functions originally performed by the Board of Fire Underwriters of the Pacific.

JUNE ACTIVITIES

FIRE SUPPRESSION: Fire weather conditions during June were high lighted by several days of abnormally high temperatures, other periods of strong "northerly" winds and still other periods of lightning activity scattered about here and there.

Fire fighting forces were quite active in as much as there were 398 forest fires and 190 non-forest fires on those lands of State responsibility (Zones I and II) that are protected by the Division of Forestry. The forest fires blackened 6,371 acres of timber, watershed, and range lands and caused \$124,030 damage; the non-forest fires caused \$534,915 damage to structures, vehicles, improvements, etc.

On lands of County responsibility (Zone III); where fire protection is provided by the Division through contracts with the Counties, there were 820 fires that burned 1,640 acres and caused \$493,484 damage.

In addition to the areas mentioned above, State crews, Conservation Camp crews and Institution Crews assisted the Sequoia-Kings Canyon National Park on a 3,200 acre fire, several large fires on the National Forests plus mutual aid to many of the City Fire Departments, Fire Protection Districts, Military Reservations, Independent Counties, and a few other State Agencies.

FIRE PROTECTION: STATE-FEDERAL COOPERATION

Meetings were held with the Deputies of District II and III to discuss proposed increases in service in the Fire Plan for protection of private lands inside the National Forests within their respective Districts.

The Green Book for the 1960-61 Fiscal Year has been prepared; however, the 2.2% reduction in budget resulted in the last minute cancellation of most of the proposed increases in service and a revision of portions of the Green Book. Consequently, the distribution will be delayed several days.

Representatives from the State Forester's office and the El Dorado Ranger Unit attended a one-day meeting with all of the Fire District Chiefs in El Dorado County to discuss matters pertaining to fire protection districts, volunteer fire organizations, and the Division's County Finance Schedule A Program.

Butte County has contracted with P. E. Van Pelt Company to have a new fire truck built for our Schedule A Program in that County.

Forestry was represented at a meeting of the Northern Section of the California Fireman's Association at Hobergs Resort in Lake County.

Most of the 24 counties with which the Division has Schedule A Agreements in 1959-60 have renewed their agreements for 1960-61. There is no indication that any of the Schedule A. Agreements will be discontinued.

The Engineering Section of the Pacific Fire Rating Bureau - formerly the Board of Underwriters of the Pacific is now located at 465 California Street, San Francisco. Mr. Loren Bush has advised the Division that this section of the Rating Bureau will continue to carry on the functions originally performed by the Board of Fire Underwriters of the Pacific.

FOREST FIRE RESEARCH

Mariposa Retardant Tests: On June 1 and 2 the Division of Forestry cooperated with the Pacific Southwest Forest and Range Experiment Station in conducting preliminary tests of some new fire chemicals which will be further tested in ground units during the 1960 fire season. The basic materials tested were bentonite foam, viscous water, and viscous water plus diammonium phosphate.

The bentonite foam proved very simple to mix and the foaming agent expanded the volume of the bentonite between six and seven times. The resulting foam covered fuels quite completely and was very effective in extending the time in which bentonite can normally be expected to retard fire spread. The material appears to be very promising for use from ground units and may also prove applicable to use from air tankers.

The testing of the viscous water was an extension of laboratory tests which have been conducted for the past two or three years by Syracuse Research Institute in Syracuse, New York. The Institute has reported that viscous water was at least four times as effective as plain water in suppressing crib fires. The tests at Mariposa helped to confirm these findings and also showed that diammonium phosphate mixed with the viscous water was an especially fine fire retarding solution.

There are still several problems of mixing, storing, and using the above materials which must be solved before they can be made operational. Further tests of the materials will take place during this fire season through use in four Division of Forestry fire trucks: 1 bentonite foam truck at Coulterville, 1 bentonite foam truck at Paso Robles, 1 viscous water truck at Cathay, and 1 viscous water truck somewhere in Santa Clara County. In addition, the U. S. Forest Service will test viscous water from 1 truck on the Shasta-Trinity National Forest, and 1 truck on the Plumas National Forest. The Nevada Division of Forestry will also test viscous water from 1 truck in either Carson City or Reno. The Los Angeles County Fire Department will test viscous water plus diammonium phosphate from their truck stationed at Temple City.

Chino Impact Tests: During the second and fourth weeks in June, the Division cooperated with the Arcadia Equipment Development Center in conducting fire retardant impact tests at the Chino Airport in Southern California. These tests had two objectives: 1. to determine what forces could be expected by ground personnel from retardants dropped from air tankers, and the safety procedures that should be taken by the personnel as a result of these expected forces, and 2. the establishing of minimum heights below which air tanker pilots should not drop fire retardants whenever there are personnel on the ground in the vicinity of the drop. Data obtained during the testing period are now being studied by the Development Center and will be reported as soon as the analysis has been completed. Tentative conclusions strongly support prior instructions that have been given to fire fighting personnel, viz., ground personnel in a drop area should lie prone on the ground facing the incoming air tanker and with hard hats firmly on their heads. Any additional cover; such as brush, trees, or rocks, will be of considerable help in breaking up the force of the retardant drop. Under no circumstances should personnel remain standing fully exposed to the force of the drop. The danger is not in the force of the retardant itself, but rather in the injuries that can be sustained when personnel are knocked to the ground.

Study of Lightning Storms: Division of Forestry and Pacific Southwest Forest and Range Experiment Station personnel met with the U. S. Weather Bureau in Sacramento for the purpose of determining how the Weather Bureau's new radar, located in Sacramento, can be used

to detect, track, and study the general characteristics of lightning storms. It is hoped that a cooperative study through the 1960 fire season will enable the Weather Bureau to obtain field information which will provide better identification of the various stages of lightning storms which appear on their radar scope. This information should provide all of the cooperating agencies with new information about the characteristics of lightning storms, where they breed, where they move to, and possibly, when we can expect cloud-to-ground lightning and in what districts.

BURNING INDEX - FIRE WEATHER

Representatives of the Sacramento Fire Control Office and Southern California District Office met with Leo Sergius of the Los Angeles fire weather center to discuss various operational aspects, the Burning Index and the fire weather forecasts.

All of the Southern California Districts' fire weather stations were inspected and suggestions were made on how exposures, etc., could be improved in order to bring each location up to standard.

FIRE PREVENTION

Conferences were held in Districts II and III with railroad representatives and district personnel for discussion of fire prevention hazard reduction on railroad rights-of-way. Over a period of years, this approach to the prevention of fires incidental to railroad operation has resulted in a reduction of fire incidence and especially to fires in the more difficult control areas.

Final filming of the 1960 motion picture film for television and motion picture theater fire prevention program was made.

A meeting was held with major electric power line executives for a discussion of fire prevention and safety connected with transmission of electric power throughout the State.

The educational (mass media) forest fire prevention campaign in California through June shows the greatest number of contributions by cooperating members of the California Fire Prevention Committee yet experienced in any one year. Requests for materials by cooperators depleted available supplies rapidly. The record of over 40% reduction in forest fire incidence on June 20, 1960, compared to the same period of 1959 may be an indication of interest being displayed by these cooperators who represent many interests in the State.

LAW ENFORCEMENT

A meeting was held with Mr. Raymond W. White, Chief of the Claims and Safety Section of the Pacific Gas and Electric Company, San Francisco, relative to a new method of reporting P. G. & E. power line fires whereby all fires are to be reported and claims made when the company is found to be negligent.

The following two cases were submitted to the Attorney General's office for review and possible collection of fire suppression costs:

Hauser Mountain Fires #1 and #2	\$11,003.24
Madonna Fire	\$17,810.69

A suit was filed by the Attorney General's office against the Hollow Tree Lumber Company in the amount of \$28,381.00 for fire suppression costs.

STATE FORESTS

A field tour of Jackson State Forest in Mendocino County was conducted for the California Redwood Association on June 29th. The purpose was to review and evaluate experimental logging of young-growth timber, production of planting stock at the Parlin Fork nursery, and the management of old-growth timber stands.

Four publications pertaining to activities on State Forests were completed in June and are being given wide distribution to the forestry profession, landowners, timber operators, and the public.

The first of these was a progress report on a pilot study in stream clearance on the Jackson State Forest by Jean Sindel. This report briefly describes the study on stream clearance which was initiated on the Forest in 1956 in cooperation with the Department of Fish and Game and results to date. Findings indicate that preventive practices to keep as much debris as possible out of streams, together with concurrent or immediate post logging removal of debris, is much cheaper and more effective than logging with no attention to prevention and then large scale debris removal at some later time.

The second publication was a status report for Jackson State Forest for the period 1947-59 which summarizes the accomplishments made on the Forest since its acquisition and the State activities at the close of 1959.

The first two "State Forest Notes" were prepared. "Growth Plots on Mountain Home State Forest," by Kenneth Beechel reports on the growth of timber recorded on permanent plots in mixed conifer and young growth Sierra Redwood stands on the Mountain Home State Forest. The second paper, "Timber Stand Improvement By Poisoning Black Oak on Mountain Home State Forest", by Floyd L. Otter reports the results of tests in poisoning California black oak trees which were overtopping conifers on the Mountain Home State Forest which were started in 1954.

The results of experiments and demonstrations on our timber management demonstration forests are now becoming known and measurable. Additional reports will be released periodically as results become available.

SERVICE FORESTRY

The California Small Woodlands Council, which is an organization of all public and private forestry organizations made a field trip in Mendocino County on June 28th. Local timber owners, agency representatives, and members of the Council participated. The timber harvesting operations of two small forest owners and Jackson State Forest were visited.

NURSERY

The Division's four nurseries during the year 1959-60 distributed 3,940,000 trees. This is approximately 880,000 more than distributed during the preceding year. The value of this stock was \$46,706, an increase of \$3,757 over the preceding year. Under the Clarke-

McNary, Section 4 Agreement with the Forest Service, \$4,200 was received as reimbursement for raising trees for the federal program, an amount which was \$20,800 less than the year before. Interest in reforestation within the lumber industry continues to expand. During 1958-59 members of industry purchased 242,500 trees, which in 1959-60 purchases increased to 510,600 trees.

The seed processing plant at the Davis headquarters nursery in Yolo County extracted and cleaned 1,834 pounds of tree seed from 1,606 sacks of cones collected by Division field personnel and inmates and wards of Conservation Camps. For the third consecutive season the cone crop was generally poor.

Spring sowing at the four nurseries was completed early in the month after considerable delay because of late rains. Planned production, part of which will be distributed as one-year seedlings in 1960-61 and part as two-year stock in 1961-62, is six million seedlings. There is an indication of considerable increase in demand by industry to plant the large burns that occurred during the 1959 fire season, and planned production of the nurseries has been increased accordingly.

Prices for trees to be distributed from the nurseries for the 1960-61 season were approved by the Board of Forestry at its meeting in Santa Paula, June 17, Public Resources Code, Section 4352, authorizes the State Forester to establish prices for nursery stock to be approved by the Board of Forestry. For the 1960-61 season prices range from \$7.00 per thousand trees for commercial timber species to \$5.00 per ten trees for transplant trees for planting roadsides and public grounds.

REFORESTATION

At the request of a member of the State Forester's Advisory Committee on Reforestation Methods and Procedures, a representative of the State Forester's staff, a representative from the Division's North Coast District, and three other members of the Advisory Committee inspected a burn in northern Sonoma County as a possible site for cooperative reforestation studies. As the burn is representative of many such burns in the Douglas fir-redwood type in the North Coast area, it appears to be suitable for such a purpose.

An early survival count was made of direct seeding work done in April in connection with the reforestation studies project on land in joint ownership of a timber holding corporation and a lumber company in Calaveras County. Seeding was by seed spot method at the time of the count; 66% of the spots were stocked with seedlings. Despite rodent control measures, many of the spots had been ravaged, and some spots appeared to have been destroyed by insects and birds as well.

TRAINING

A two-day timber inventory and appraisal school was held by the Division in Nevada City on June 22-23 for right-of-way agents from the Division of Highways from the Marysville headquarters. The school was conducted by the Division of Forestry at the request of the Division of Highways to acquaint right-of-way agents with timber appraisal and timber inventory methods and procedures. Personnel from the State Board of Equalization, Division of Beaches and Parks, and the Department of Finance assisted with the instruction.

RANGE IMPROVEMENT

The Ranchita Range Study was visited by the Board of Forestry during the field tour in San Luis Obispo and Santa Barbara Counties. The Board examined results of crushing

brush with an anchor chain, and plots which had been treated with the Marden Brush Cutter. Future plans for the study were discussed. The Ranchita Range Study is one of several field demonstrations of brush range improvement being conducted cooperatively by the California Division of Forestry and the University of California Agricultural Extension Service.

The Range Improvement Program for the Sierra Cascade District was reviewed by personnel from the District staff and the State Forester's office on June 28 and 29. Advisory service to ranchers doing controlled burning and assistance to administrative personnel were discussed and general plans made. The progress of the Backbone Range Study in Shasta County was reviewed and plans for future operation of the study agreed upon.

SOIL SURVEY

The Northwest Forest Soils Council held a two-day field meeting in Humboldt County on June 16 and 17. Together with personnel from private industry and public agencies, members of this group examined and discussed properties of representative soils of forest and range areas on lands of the Simpson Redwood Company. Work of the Soil-Vegetation Survey, being conducted cooperatively in Humboldt County, formed the basis of much of the discussion. California Division of Forestry personnel from the Sacramento headquarters and the North Coast District participated in the field meeting.

WATERSHED MANAGEMENT

On June 23 the Pacific Southwest Forest and Range Experiment Station gave an informal seminar for U. S. Forest Service and California Division of Forestry personnel on research being conducted at the Central Sierra Snow Laboratory near Soda Springs. The general program of research was explained in considerable detail, and, instrument installation and experimental watersheds were visited.

ENGINEERING

On June 29, 30, and July 1st Reinecker inspected progress on the Don Lugo Camp and Mt. Home Camp construction, and checked on the status of the damage at the Puerta La Cruz Conservation Camp which resulted from a fire in the recreation portion of the inmates barracks building. It is currently estimated that the damage will approach \$10,000.

Messrs. Schori and Petersen met with Messrs. Aronstein and Miller on the parking problem. We recommended that the only charge would be at our District III and IV headquarters since they are adjacent to State Colleges where the current prevailing practice is to charge \$1.50 per month.

On June 6th a meeting was held with Governor Brown, various labor leaders, and the Director of Corrections on the type of work to be performed by the Conservation Camp Program. Labor representatives insisted that we should not be building administrative roads nor do any type of work that would be competing with union labor forces. A committee is to be established to set up standards of work that is appropriate for us to do.

On June 9th the engineering staff met with Assistant Deputy Richey from District I to review construction problems encountered in laying the Alder Camp water line.

Mr. Petersen, Mr. Reinecker, Mr. Bennett, District III representatives, Chuck Harper of the Budget Division, and George Panos inspected the proposed Walsh Mountain Lookout site and the proposed Northern California Training Academy site both located on government

land being declared as surplus from the Beale Air Force Base. Subsequent to the inspections at this location, Mr. Petersen and Mr. Reinecker, and Ray Banks of District III accompanied by Associate Ranger Bromley looked at a site acquisition problem at the Nevada City Headquarters site and then inspected the construction work proceeding at the new Washington Ridge Camp site. It appeared that this latter area was nearly ready for the contractor having been graded and cleared in preparation for construction. Division of Architecture bids for construction of this camp were opened July 7 and the low bid of \$399,800 was by McDaniel & Burroughs Inc.

The site grading at Intermountain has been started and we have advertised for well bids.

JULY ACTIVITIES

FIRE SUPPRESSION: Due to wildfire, the State of California, its people, and its natural resources suffered the tremendous and tragic loss of two lives and approximately 150,000 acres during the month of July.

The loss of life occurred on the Angeles National Forest when a B-25 type aerial tanker crashed while engaged in suppression work on the 17,300 acre "Polecat" fire.

The cost of suppression and the long-term loss in recreation and timber, plus the destruction of watershed and range lands will in all probability exceed several million dollars.

The major portion of the above mentioned "acreage burned" was caused by six fires, five of which were on the Angeles National Forest and destroyed a little over 70,500 acres. The sixth was in San Luis Obispo where 50,500 acres were blackened by a single fire.

Due to the extreme conditions that existed, the State Forester suspended all wildland burning permits during the July 23 through July 26 period.

For those specific areas of the State where fire protection is provided by the California Division of Forestry (by contract, agreement, or law) there were 1,670 fires that burned 71,952 acres and caused \$1,237,708 damages.

During July of 1959 there were 1,719 fires, 48,452 acres burned, and a damage loss of \$1,203,610.

On that area of forest watershed land (Zones I and II), that is the Division's primary responsibility, there were almost 100 fires ignited by lightning strikes. Fortunately, scattered showers gave the crews time to pickup most of the fires with very little acreage loss. The heaviest concentration, a little over 50%, occurred in the Sierra Cascade District with the Southern California District following with a little over 25%.

For comparison purposes, the records for the past ten years list a low of 63 lightning fires during the entire 1954 fire season, a high of 474 such fires during the entire fire season of 1958, and an average of 191.2 lightning fires per year during the 1950-59 period.

FIRE PROTECTION: STATE-FEDERAL COOPERATION

The State cooperative fire protection allocation (Green Book) for Fiscal Year 1960-61 was printed and distributed to the U. S. Forest Service. The distribution was delayed due to the necessity of making certain revisions because of the 2.2% budget reduction. This

eliminated most of the proposed increases in the allocation; however, it was still possible to add a little additional manning on three of the national forests. The #2 crew at Mineral on the Lassen National Forest was increased to a #3 crew. A six-month fire prevention patrolman in the Sacramento Canyon was added to the Shasta-Trinity National Forest, and Kettenpom Lookout was added to the Six Rivers National Forest allocation.

The acreages for National Forest Lands and State and Private Lands inside National Forests were revised in cooperation with the Regional Office of the Forest Service.

Two days were spent on the Flora Fire on the Stanislaus National Forest.

AUTOMOTIVE

A week-long equipment maintenance review was conducted in District I (North Coast). This review is designed as a field supplement to the Division's preventive maintenance program initiated in 1958. A "team" consisting of representatives of the Sacramento headquarters Fire Control Staff, District Headquarters Staff, and the respective Ranger Unit, made spot checks of various types of automotive equipment to determine the adequacy of the maintenance program. Discussions were held with the drivers, operators, and administrative personnel who work directly with the equipment records in order to get recommendations for improvements to the system. Further reviews of this kind are planned for other districts.

FOREST FIRE RESEARCH

Several forest fire research projects were launched during the month of July by the Division of Forestry, many of which were in cooperation with the U. S. Forest Service, the Pacific Southwest Forest and Range Experiment Station, and other forest fire agencies in California.

FIRE RETARDANTS

As a result of the Mariposa tests in June, one viscous water truck was placed in operation at Cathay, one bentonite foam truck at Coulterville, one viscous water truck at Morgan Hill, one bentonite foam truck at Paso Robles. To date there has been insufficient action with these trucks to provide any concrete conclusions. Preliminary reports on the actions of these trucks will be reported next month.

STUDY OF LIGHTNING STORMS

The Division's 1960 thunderstorm study was put into operation during the middle of July through the placement of time lapse cameras at three lookouts between Lake Tahoe and Eagle Lake in Lassen County: Babbitt Lookout on the Tahoe National Forest just south of Sierra Valley, Mt. Ingalls Lookout on the Plumas National Forest a few miles north of Sierra Valley, and Fredonyer Lookout in the Lassen Ranger Unit just east of Eagle Lake. The time lapse photographs of thundercloud buildups will be correlated with readings from the Sacramento Weather Bureau radar with reports from other lookouts in the same general area, with forecasts of lightning storms from the Sacramento, Reno, and Redding Weather Bureau offices, and with lightning fires that actually occur in the target area during the 1960 fire season.

Technical direction of this program is again being handled by Lew Robinson of the Experiment Station. During the winter months Mr. Robinson not only will analyze the data derived from the sources noted above, but will also study the base history of lightning storms and lightning fire occurrence in California particularly in regards to those atmospheric conditions which apparently cause "dry" lightning storms and which cause the occasional

"big bust" which presents such a problem to our field people in logistics of manpower and equipment.

AIR TANKERS

A report on the Division's 1959 air tanker operations is being printed. Evaluation forms for the 1960 air tanker operation have been submitted to the field. These forms are somewhat similar to those used in the past years, but with the full cooperation of our field personnel the Division should obtain sufficient data to permit further refinement of its air tanker dispatching and use guidelines.

Bids for initial attack aircraft services in the North Coast and Southern California districts were evaluated and all aircraft were inspected for compliance with specifications. All but one were found acceptable. Both districts held a training session for all pilots and administrative personnel concerned before placing the air tankers in operation.

WATERSHED MANAGEMENT - Public Law 566

A representative of the Fire Control Section met with other interested agencies at a progress meeting relative to Public Law 566 projects. The bi-monthly meeting of the Soil Conservation Society of America was also attended.

Technical assistance was given to Napa County Ranger Unit personnel on the Ulati Creek fire protection planning. A representative met with the State Division of Soil Conservation planning personnel and the sponsors of the Ulati Creek watershed to determine progress made to date and future planning needs.

The California Flood Control Association conference and the monthly State Soil Conservation Commission meeting were also attended.

Assistance was given the U. S. Forest Service in the development of an itinerary and arrangements for a field review of watershed management projects in California by Warren T. Murphy, U. S. Forest Service, Washington, during August.

FIRE WEATHER AND BURNING INDEX

A cooperative program has been developed with the Radar Section of the Sacramento Weather Bureau office for the reporting and tracking of potential thunderstorms. The radar installation, located at 23rd and R Streets in Sacramento and designed specifically for detection of precipitation cells and areas of rainfall, has a range of near 250 nautical miles. As an indication of coverage, convective cells have been located as far north as the Oregon border and to the south as far as Mt. Whitney area.

The radar program has several objectives. Supplemental information is being gathered for correlation with field data collected in a thunderstorm study area by the Pacific Southwest and Range Experiment Station. Since the radar operation is on a 24-hour basis it will provide the Division of Forestry with a constant watch for unexpected fast-moving or nighttime thunderstorm out breaks. The radar will also provide an over-all view of areas of greatest activity and rates of movement of thunderstorms toward previously unaffected areas. Finally, by use of the Division's field network of observers and rapid communications, current information on the actual field behavior of thunderstorms or suspected thunderstorms can be relayed to the radar unit to further their knowledge of the meanings of the various observations and readings taken from the radar installation.

The Fire Weather and Burning Index coordinator spent 8 days on the 50,500 acre Weferling Fire in Monterey and San Luis Obispo counties assisting the mobile fire weather unit of the U. S. Weather Bureau from San Bruno.

FIRE PROTECTION: State-County Cooperation

Considerable preliminary work was recently done on revision of the County Responsibility Area Fire Plan for Kings County.

Members of the State Forester's staff from the Fiscal and Fire Control Sections, and Mr. Lowell Gano from the Department of Finance met with Deputy Metcalf and members of his staff at Fresno where they spent two days reviewing Schedule "A" agreements and discussing some of the problems in connection with said agreements that are in need of attention.

The Santa Cruz County Board of Supervisors has requested that the Division of Forestry prepare a County Responsibility Area Fire Plan for that county. In the Board's request they asked that an attempt be made to determine the feasibility of forming that portion of the county which is not now within the cities or fire protection districts into one large fire protection district as a means of financing the fire services necessary to protect the county's area of responsibility.

Ranger Dunwoody has been working with Ranger Gum on this plan. The County of Tehama has increased their Schedule "A" budget by a sizeable amount adding one year-long Assistant Ranger position, one year-long Foreman position, and one additional driver position year-long. The Division of Forestry is cooperating with Tehama County in purchasing some radio and automotive equipment which will be used in the Schedule "A" program in that county.

The County of Butte has purchased a new truck chassis and P. E. Van Pelt Inc., has a contract to build it into a fire truck for use in the Schedule "A" program in that county.

FIRE CONTROL - GENERAL

Representatives of the U. S. Army, U. S. Forest Service, and California Division of Forestry met at U. S. Army Camp Hunter Liggett. The purpose of the meeting was to provide an opportunity for each agency to declare their cooperation with neighboring agencies and to give a "run-down" on the 1960 fire plans of the respective agencies.

FIRE PREVENTION

Preliminary conferences were held with San Francisco Police Department and U. S. Forest Service directed toward joint participation by U. S. Forest Service and California Division of Forestry in Bay County Peace Officers' program "Sigalert." This program reports from one center to all radio and television stations in the Bay Area, emergency road conditions and other conditions which affect large numbers of residents of the area.

Plans were developed for presenting a Division exhibit at the State Fair.

Paper posters for the 4' x 8' roadside signs were received from the vendor and distribution made to the Districts.

Final filming and editing was completed on a new 15-minute motion picture and shorter trailers and spots for use on television and in motion picture theaters.

Arrangements were made for a meeting in August with Pacific Southwest Forest and Range Experiment Station, University of Southern California, and Division personnel for

discussion of 1960-61 work in connection with forest fire prevention research.

LAW ENFORCEMENT

A summary of the status of pending cases on fire litigation as of July 1 shows that a total of 41 on file with the Attorney General. In 23 cases letters of demand have been transmitted for a total of \$95,000.00. Five suits have been filed representing \$115,000.00 total. Thirteen other cases representing \$45,000.00 are ready for further action.

There are 301 other fire litigation cases pending in this office, exclusive of 1959 railroad fire cases.

There are also 22 Forest Practice litigation cases which have been forwarded to the Attorney General for further action.

FOREST PRACTICE

Four alternate plans were approved by the Board of Forestry in Placerville on July 14th. These plans were resubmitted to the Board because similar plans had been terminated by recent amendment of Forest Practice Rules. Two plans allow departure from the cutting rules of the North Sierra Pine Forest District to improve forest growth for the production of Christmas trees on certain lands in Nevada County. One plan applies to land owned by Jack E. Larson and the other to lands owned by P. G. & E. but managed by Mr. Larson. Two plans permit deviation from the cutting requirements of the South Sierra Forest Practice Rules to improve the quality of timber stands at high elevations on lands located in Amador, Alpine and El Dorado counties by favoring species other than lodgepole pine. One plan was submitted by Warren R. Taylor of Jackson and the other by Jake L. and Virginia A. Schneider and Lloyd C. and Betty Mehtern of Slough House.

NURSERY AND REFORESTATION

A comprehensive report on the Division's nursery and reforestation programs was presented to the Board of Forestry at its meeting in Placerville on July 14th. The basic need for rehabilitation of poorly-stocked forest lands, history of reforestation efforts in California, the status of the present State forest nurseries, and work underway in reforestation studies by the Division in cooperation with owners were reviewed. Despite biological and economic problems, reforestation can be expected to play a greater role in tree farming in the years ahead in California.

A meeting was called by the Sacramento Municipal Utility District to explore approaches to a possible solution of poor planning in private tree planting in the city of Sacramento and surrounding county areas. Those invited to attend were representatives of the city of Sacramento, Sacramento County, Pacific Gas and Electric Company, California Association of Nurserymen, a local landscape operators association, several commercial nurserymen, Sacramento State College, the landscape management department of the University of California at Davis, and the State Forester. In summation, it was the consensus of the group that the problem could best be solved by educating property owners in selecting approved species of trees which would be planted in well planned locations. Several mediums of directing an educational program were discussed, the most effective probably being hand-out material furnished commercial nurseries that supply trees to property owners. It was also felt that an effective force within the city and county would be permanent tree committees which could stimulate approved tree planting practices. The need for more research in growth habits of trees and their adaptability to the varied locations was also emphasized.

An early season survival count was made of seedlings planted as a reforestation study in the 1959 Forest Creek burn on land in joint ownership of a lumber company and timber holding corporation in Calaveras County. Some 16,000 trees were planted for the study in March, 1960, by inmates of the local Vallecito Conservation Camp under the supervision of foresters from the two private concerns and personnel of the Division of Forestry. The design was to test four species of seedlings which were grown in plots at the Division's Magalia nursery in Butte County treated with different concentrations of commercial fertilizers. These species are, ponderosa pine, white fir, Douglas fir, and Sierra redwood. Included in the testing is a comparison of survival of seedlings of ponderosa pine and white fir lifted from the nursery at the end of one year and at the end of two years. The survival figures of the initial count are: one-year white fir seedlings 15%, two-year white fir seedlings 33%, one-year ponderosa pine 70%, and two-year ponderosa pine 75%. The comparison of the two age classes of ponderosa pine are the reverse of results of a similar planting set out in the spring of 1959 in a nearby area. Survival of seedlings from the different fertilized plots in the nurseries varied greatly and no correlation was evident. Survival of Douglas fir and Sierra redwood was a poor 32% and 29%, respectively.

Results of the cone crop survey conducted by Division of Forestry personnel on State and private lands in the timbered areas indicate that the 1960 season will be the best since 1956. In the Sierra Douglas fir is producing a good crop as are the important commercial species of pine. White and red fir show only a light crop, however. In the coast ranges the Douglas fir crop is light with the exception of Mendocino County where it is good. Redwood appears to conform to about the same pattern. The results of the survey will be forwarded to the Pacific Southwest Forest and Range Experiment Station where they will be combined in a State-wide report prepared by the Station. Cone ripening generally occurs from late August to mid-October depending on the species.

PEST CONTROL

The Wildlife Committee of the Pacific Northwest Forest Pest Control Action Council held a two-day field meeting in south central Oregon on July 14 and 15. The purpose of the meeting was to review porcupine control project accomplishments on both private and government lands. The porcupine in this area is of such concern that a bounty has been placed upon the animal. The funds for payment are provided by private lumber companies and the counties involved. Personnel from the Division participated in this field meeting.

WATERSHED MANAGEMENT

On July 13, essentially the entire 17,500 acres of the San Dimas Experimental Forest, near Glendora, California, was burned by a forest fire that started from lightning. Most of the stream gaging, weather recording, and other instrument installations were destroyed or damaged. The California Division of Forestry has been co-operating since 1947 in the watershed management research carried on by the U. S. Forest Service at San Dimas. In spite of the damage sustained from the fire, because of the long-time records of stream flow, and rainfall, and careful calibration of a number of watersheds, San Dimas now presents a unique opportunity to determine effects of forest fire on southern California wildlands. The Pacific Southwest Forest and Range Experiment Station has prepared a revised research plan and is taking active steps to repair the damage done so that data can be gathered during this first season after the fire.

PUBLIC RELATIONS

On July 19th a conference was held between the State Forester and the Director of the Agricultural Extension Service to adopt guidelines for the activities of each agency in forest and range management. Both organizations have certain responsibilities in these

fields and it appeared necessary to have working arrangements in order to eliminate duplication of effort, to coordinate operations, and to provide means of greater cooperation. Copies of the guidelines were supplied to all concerned employees in both agencies. This action culminates the work of two joint committees - one in each field - that were established in early 1959.

ENGINEERING

On July 13, Director Nelson and Mr. Petersen met with the four representatives of Labor, along with the Directors of Corrections, Youth Authority, and Public Works and their respective staffs, as well as Charles Johnson from the Governor's office. The conservation camp program was presented to the group and they indicated a desire to make a tour of the various camps and projects toward the end of August or the first part of September. It was further concluded with the Division of Highways that an immediate decision should be made whether the new camp is built in Kern County. It is hoped that this problem can be handled separately from the conservation camp study. There were several expressions that they were in favor of the conservation camp program as they knew it, but were very much opposed to any new Highway camps.

On Monday, July 11, representatives from the Division of Forestry, from the Fish and Wildlife Conservation Board and the Department of Fish and Game inspected the McClure Lake conservation dam project. This project is being accomplished through the use of a 20-man Youth Authority crew. It has been reported that the crew is doing an excellent job and that the Fish and Game Engineer is quite satisfied with the progress of the work to date.

Joint agency inspections have been conducted of the work progress being made at the Alder Conservation Camp in Del Norte County and of the progress at the Washington Ridge Conservation Camp in Nevada County. Progress has been exceptionally good at the Alder Camp and the contractor appears to be well ahead of schedule. The Youth Camp at Washington Ridge has had the site development completed and the contractor is staking out the buildings and excavating for foundation.

The Contractor, Utility Trailer Manufacturing Company, has completed construction on all moving trailers and has completed delivery to the State. District IV established and activated their mobile camp at the Mountain Home State Forest on July 18. District II has completed the site development for their mobile camp on the property purchased for the Intermountain Conservation Camp and they anticipate activation of the mobile crew on August 8. District I has assembled all of their mobile trailers at the Parlin Fork Conservation Camp for final painting and check out and intend to have their camp established on site by September 1.

Forestry has completed the design for the 4-man Bailey Ridge Fire Station located in Calaveras County. The combination barracks-messhall will be constructed this summer.

Forestry has completed their share of the work assignment in helping to produce the recreation plan. Forestry delineators and engineering staff expended nearly 140 man days of effort on this project.

STATE FOREST RANGER WELLENDORF RECEIVES MERIT AWARD

Forest Ranger Wellendorf received a Certificate of Award and a cash payment of \$15 for his suggestion to the Merit Award Board to revise the burning permit form so that extension can be indicated on original.

THE DEVELOPMENT AND DISTRIBUTION OF FORESTRY INSTRUMENTS AND EQUIPMENT IN THE SIXTIES

A Paper Presented to the Alabama Chapter, Southeastern Section, Society of American Foresters at Montgomery, Alabama, Saturday, 27 August, 1960 by James W. Craig, President and General Manager, Forestry Suppliers, Inc., Jackson, Mississippi.

Mr. Chairman, ladies, members of the Alabama Chapter, Southeastern Section, Society of American Foresters, guests and friends.

The theme of this meeting "Challenge of the Sixties" may be developed in many ways. I am grateful to Chapter Chairman Tom Croker and Program Chairman Vance Miles for the opportunity to explore with you one area of development.

Years pass quickly as we turn the cards of time.

Let us all imagine that it is August 27, 1970, ten years hence. Let us further imagine that we occupy some vantage point from which we, unseen and undetected, can observe and hear part of a day's events in the life of Industrial Forester Buck Martin.

It's a little after day break on a typical hot August day somewhere in the South. Buck Martin, chosen here as the characterization of all foresters, strides out of the rear door of his home. Hatless, he casts a quick eye around the sky, notes the temperature is already high, then moves quickly over to his turbine-powered airmobile.

The airmobile is his, but he uses it only on company business under an hourly-lease arrangement. He can't be paid mileage because there is no way to measure mileage. The airmobile skims along parallel to the ground surface, floating on a cushion of air.

Buck opens the passenger compartment door, climbs in and quickly completes his gauge and dial inspections.

He disconnects the electric power lines, like umbilical cords, through which new life has flowed into the power packs that energize his professional equipment.

Buck then plugs in his personal telephone and keys the sequence to call his District Headquarters.

"This is Martin 4652, on duty." The numbers are the last four digits in his social security number. Their use for additional identification has been made necessary by the millions of new personal phones following the lofting of an orbiting satellite communications system.

"Roger, Control 021 speaking. Listen carefully, Martin 4652. You are to disregard yesterday's orders for today. Here are new instructions."

"Run a standard audit on CFI-indicated volumes for Block 3, Compartment 102."

Now, Buck Martin 4652 knew what he had to do and he knew how to do it. And he had the equipment. This equipment he now proceeded to check very carefully.

First, his electric power packs, lightweight, portable, rechargeable. He had enough and they were all fully energized.

Next, his Electronic Diameter Gauge. This device accurately measures tree diameter and then, at the press of a button, records it on sensitized tape along with other data.

He checked his radar range meter and his electric tree height finder. These two instruments really worked with each other to produce extremely accurate tree height measurements.

Buck then examined his adjustable cruising prism and checked it against established marks to guarantee its correct calibration.

He tested his bark thickness gauge which operated like very short range radar and his new increment core cutter which utilized high frequency non-audible sound waves.

Buck made sure he had enough sensitized recording tape.

His next step was to get out the SAP. That's what he and the boys called several sheets of paper that spelled out the steps in Standard Audit Procedure. A quick review and he had it in his mind. It was very important that the audit be done just right.

Buck didn't need a compass. The airmobile had a gyro and all his work would be done at predetermined points easily accessible to airmobile transit lanes through the Compartment. Furthermore, how could he get lost. With his personal phone he could talk to anywhere in the world.

Buck was concerned about his personal comfort, however, and he thoroughly inspected his experimental heat transfer suit. Buck was one of a few foresters chose to test-wear it. The suit employed a new radiation principle that quickly dissipated excess body heat. No matter how hot the weather, the wearer felt air conditioned.

Another device that Buck tested was his insect repellent antennae. Two short unobtrusive knobs emitted frequency waves very irritating to insects.

Buck Martin 4652, Industrial Forester, was ready to go. He whined his turbine into life and air floated his airmobile rapidly out to Block 3, Compartment 102.

Later, in the afternoon, Buck slid into a Pay Telephone DTS, Data Transmission Station. He fitted onto the sender the sensitized tape containing all the details obtained in his Standard Audit. He coded out his instructions and keyed them into the sender. Finally, he fed in his charge card and fingered the last key to set the sender going. The data was feeding directly into the memory drums of his company's Data Processing machine.

This machine would process the data, make the comparison with CFI-indicated volumes and print the report for District Control Hq. 021.

Martin 4652 wafted himself home. What was he doing while the machine processed his audit? Why, ladies and gentlemen, fellows, Martin was sitting comfortably on his air conditioned patio with his neighbor. They were cussing the Republicrat party and dipping dehydrated beer.

Martin 4652 had many other new devices to aid him in managing the company forest land assigned to him.

He had a special soil-site analyzer with multiple probes. These he inserted into

the soil and then from dials and gauges he read off and recorded the productive capacity.

He was working towards precise spacing of his trees, so that each had just enough room to grow at the time it needed such room.

The new genetic strains developed from the 1956 seed orchards were proving out in production. It was more profitable to clear cut some areas and renew them with genetically proven strains. Like many agricultural crops, however, trees from these strains did best under ideal growing conditions, especially absence of competition from unwanted vegetation.

Martin 4652 had a potent weapon to help him control stand composition. New herbicides had been developed that were extremely selective. Their action was unique, too. Chemically inert alone, the herbicides operated by marrying up with a compound occurring naturally in the unwanted vegetation. The union was a new compound lethal to the unwanted vegetation and harmless to all else.

For locating, measuring and marking his property lines, Martin 4652 employed electronics extensively. Line directions were referenced, not to magnetic north or to true north, but to a never changing OCP-ORBIT CONTROL POINT. Magnetic declination was eliminated.

As mentioned earlier, Martin 4652 had a radar range meter to measure his distance. He didn't have to pull a chain, bother with chaining pins and wonder if he had dropped a pin.

Property lines on his Company's land were marked with special point, tagged with a radioactive tracer element registered for use only by his company. Martin proved his lines with a Geiger counter.

Fire detection and suppression was a responsibility of Martin 4652, but he was just one member of a team. Industry and the state had joined forces to construct a network of tall sky probes, each topped with sensitive infra red heat-sensing devices. These towers operated 24 hours per day. They fed information on all fires, forest, home, field, any heat source, into a central analyzer room and control headquarters. There electronic brains sorted out heats from known sources and triggered warnings on new ones.

A fleet of helicopters stood ready to exert quenching action from the air. These were supplemented by fast ground machines, similar to mist blowers.

Quenching involved robbing the fire of heat. It had long been known that a fire required three factors for continued burning. It had to have something to burn or fuel; it had to have air. Thirdly, it had to have heat, to first raise the fuel to ignition point and then hold it above that point.

So the most successful approach had been to rob the fire of heat. Concentrated heat absorbing materials are applied to the going fire, either by helicopter or ground-carried mist blowers. The effect is miraculous. Burning brands are transformed almost instantly into cold ashes.

Now, of course, I am not taking orders for airmobiles, electric power packs, electronic diameter gauges, radar range meters or heat transfer suits - that is not today. But in a few catalogs hence, who can say.

The arrival of nuclear power, the development of portable power, and of compact electronic devices are sure to bring vast improvements in forestry instruments and equipment. How vast is largely up to the foresters themselves. Few new products are developed unless

a market for them exists or is thought to exist. Foresters are not a big volume market. The parent society estimates 17,000 professional foresters in the United States, about the same in all the rest of the world. By 1975, the prediction is for 35,000 foresters in the United States.

What new tools do foresters want? What ideas for new tools have you, an individual forester?

What have you done to bring those ideas into reality - into something tangible and usable.

Very few of today's forestry instruments and equipment can be traced back to a forester.

Hand tree marking guns are all borrowed from other industries.

Tree diameter tapes are merely adaptations of earlier pipe diameter tapes.

A tree girdler was developed by a genius in metal.

A widely used tree injector was conceived and put into production by a lawyer.

Will foresters still be using it in 1970, or will they have something fresh like a Tree Ray Gun - Killing without contact.

The kind of forestry equipment you use in the sixties will be influenced by

1. How largely you are challenged by your profession and your job.
2. How strongly you are pressured for ever greater out-put at less cost using fewer people.

When good equipment is developed you may be sure there will be alert merchandisers who will put it in your hands efficiently at low cost.

This presentation has been stimulating to me and I hope the same to you. Thank you.

THINGS ARE TOUGH ALL OVER

"Although the average area burned over may not exceed 7000 acres per year, periods of one to three weeks without rain keep the fire fighting crews on their toes."

Report of the State Forester, Ohio
Conservation Bulletin, May, 1960.

A GROVE OF STUMPS

What shame a man feels when he sees
A grove of stumps that once were trees
And know he is the one to blame
For being careless with a flame.

Though aeons guard each growing tree
Forests are burned by fools like me.

--Edan Keane
(with apologies to the memory
--(of Joyce Kilmer.)

25 YEAR CLUB COLUMN

The State Forester's office was advised recently of the passing of Benjamin Jones Richardson in Yreka, Siskiyou County.

Ben will be remembered and missed by all who knew him during his period of employment as a Patrolman and Ranger in Siskiyou County under the direction of former State Forester M. B. Pratt. It was in 1926 that Ben engaged in his first active employment in the Division of Forestry as a Patrolman and rapidly advanced to Ranger. Bend held this position until he was elected Siskiyou County Sheriff in 1938.

A fun loving and generous individual its a reasonable assumption that had health permitted he would have enjoyed joining his old time friends as a member of the California Forestry 25 Year Club.

Along with others of those who knew him well and worked with him on many fires during the earlier years are saddened to hear of his untimely passing.

"BACKFENCE GOSSIP"

Given an unshod packhorse in rough country and one pair of horseshoes. On which feet would you nail the shoes to best advantage? Along with a practical demonstration of how to throw a diamond hitch, that used to be a typical question asked of an aspiring young forest ranger, old school. Them days are gone. Recently the State Division of Forestry acquired 500 pairs of horseshoes from surplus government supplies. For hand use, that is. They were obtained for the recreation and exercise of crewmen living at the numerous forest fire camps operated by the Division. But the way fires have been going this season it is doubtful if all the horsehoes together will register a single ringer before late fall.

DR. MICHAELS VISITS MOUNTAIN HOME STATE FOREST

Dr. Michaels, a physicist from the University of Pennsylvania, visited Mountain Home State Forest in Tulare County to obtain small pieces of redwood from down trees. The small pieces of wood were selected from trees about 3200 years old, to be used for studies of carbon-14 disintegration, and of past effects of cosmic rays.

PERSONNEL CHANGES

The following appointments and transfers have been authorized and completed since the last News Letter was released:

Theodore J. Waddell promoted to State Forest Ranger I (Camp Coordinator)
District V Headquarters, Monterey, July 1, 1960.

John T. Odgers promoted to Associate State Forest Ranger (Business Management)
District V Headquarters, Monterey, July 15, 1960.

LeRoy J. Rockwell promoted to Assistant State Forest Ranger (Dispatcher)
San Diego Unit, District VI, June 1, 1960.

John P. Riha promoted to Assistant State Forest Ranger, Humboldt Ranger Unit,
District I, July 15, 1960.

Phillip G. Lowell promoted to Forest Technician, Mendocino Ranger Unit,
District I, July 1, 1960.

James Binando promoted to Assistant Forest Technician, Latour State Forest, District II, July 1, 1960.

Charles E. Barton promoted to Assistant Forest Technician, District VI Headquarters, Riverside, July 1, 1960. Assigned as assistant to the district engineer.

Guadalupe M. Perez, Assistant Civil Engineer, transferred to District VI Headquarters, Riverside, from the Division of Highways, July 1, 1960.

Lawrence H. Loder, Junior Civil Engineer, transferred to the District IV Headquarters, Fresno, from the Division of Highways, July 18, 1960.

Hazel Glackin, Senior Clerk, transferred to District III Headquarters, Sacramento, from the State Personnel Board, July 5, 1960.

The following appointments were made in the Sacramento-Administration Office:

Georgene G. Albright reinstated as Intermediate Typist Clerk, Forest Fire Prevention Section, July 1, 1960.

Velma L. Phelan to Intermediate Typist Clerk, Fiscal Section, July 25, 1960.

Margery Stevenson to Intermediate Typist Clerk, Personnel Section, August 15, 1960.

Jim Webb, Intermediate Clerk, transferred to the stockroom from the Personnel Section, August 15, 1960.

A CLEAN SWEEP OF SCOTCH BROOM?

Almost 40 years after the original idea was conceived by Dr. Harry Smith of the University of California Citrus Experiment Station, last month 1,000 twig borer moths (*Leucopthera Spartifoliella*) were released near Georgetown, El Dorado County as a first attempt at biological control of Scotch Broom (*Cytisus Scoparius*). Over 27,000 acres are found to be infested in this county.

The insects were flown from Paris, France, to New Jersey where they were checked through quarantine to prevent the introduction of any unwanted pests before being flown on to Placerville. The adult moth is a silver-gray insect about 1/4 inch long. The larvae feed upon the tender growing tips which stunts the plant and reduces seed production. As a result of this insect activity, Scotch Broom in France is not considered a pest as it grows only as a scattered dwarf shrub.

Extensive research has been necessary to insure that the insect would feed only on brooms and not become a menace to agriculture. It was discovered that the moth found crinkled stems, like Scotch Broom, more attractive than smooth stemmed plants. The larvae soon die after hatching on the latter.

Assistant Ranger Hoyt Thornton, in whose district this area lies, commented on the fact that the moths were "planted" in secrecy in order to minimize the "bug-rustler" problem. Many of the residents in the infested area are greatly interested in transplanting a moth family for use on their own property, it seems!

Jack D. Burke
State Forest Ranger

LETTER FROM RANGER SPRINGER TO DEPUTY STATE FORESTER FAIRBANK

"While en route to a fire in Napa County on the morning of June 21, Forest Fire Truck Driver Mike Lane noted a fire and stopped to give assistance. Outlined below is the letter of appreciation we received from the Italian Swiss Colony Company representative.

'Gentlemen:

'We wish to express our thanks and appreciation to your division and particularly to Fire Fighter Mike Lane who was passing our property, adjacent to Highway 101 this morning, June 21, 1960 and seeing our distress, volunteered his assistance in helping us to put out a fire on our premises.

'Signed/ Joseph S. Vercelli, Plant Manager'"

NEVADA-YUBA

During July a 4005 acre incendiary fire occurred in Yuba County in the usual area - Stanfield Hill.

The District III range improvement crew protected the Pansy Higgins' house and gave top-notch fireline and snag-falling assistance. The Butte Ranger Unit, headed by Ranger Campbell, provided initial attack and fireline aid that proved invaluable - especially in keeping the fire on the Yuba side of Honcutt Creek (the Butte-Yuba boundary). Bill Merle and his Iron Mine gang did their usual good job as did the Smartsville CYA crews.

Fire Boss Ron Hanks located his fire camp across a fenced in path to a livestock watering hole in Dry Creek. This was noted by ex-cowboy Ranger Jamieson who first detected the belligerent look in the eyes of the cattle staring at the camp crews. One of Wrangler Charlie Carlson's girl friends, a young heifer, finally broke the ice and with a snort trotted through fire camp for a snort.

The following article was published in the Sacramento Bee a few days following the fire:

"Expresses Thanks

"Editor of the Bee - Sir:

"I wish to extend my thanks to the forest rangers, working men, truck operators and pilots who did such a wonderful job controlling the forest fire on my place on July 19th. God bless them all.

"s/Pansy E. Higgins, Stanfield Hill"

Robert Burns, State Forest Ranger

THE LOOKOUT'S VIEW

Everyone should be a lookout
For just a day or so,
To watch what is a little smoke,
Begin to grow and grow.

We keep a constant vigil,
On this great land of ours,
Helping protect our forests,
From ever present fires.

One day we gaze over the countryside,
There is beauty everywhere,
Next day we see that same country,
Burned black, ugly, and bare.

There is the careless person,
For him there is no pity,
The fire he starts without a thought,
Burns the trees, that could become a city.

When they look upon the damage,
That their carelessness has wrought,
Do they wonder how long it took that tree to grow,
Do they give this any thought?

For the person who deliberately starts a fire,
His mind is hard to understand,
He should be put on a ship at sea,
To remain, a man without a land.

We cannot fight the bigger things,
Like lightning and the such,
But just a little "thinking",
Would help so very much.

Don't just read a fire-warning sign,
Try to bear it in your mind,
Help Keep California Green & Golden,
It's your duty to mankind.

Ruby B. Maltby
Rushing Mt. Lookout

THE ATOMIC AGE COMES TO MOUNTAIN HOME STATE FOREST

The ancient Sequoia gigantea has come into its own in this modern atomic age. Dr. Michaels, a physicist from the University of Pennsylvania, visited Mountain Home State Forest to obtain small pieces of redwood from a 3200 year old giant that was felled about 90 years ago. Dr. Michaels will use the redwood pieces in the study of carbon-14 disintegration and the past effect of cosmic rays.

DISTRICT IV MOBILE CONSERVATION CAMP IS IN OPERATION

The first of three Mobile Conservation Camps in the State opened for business in a beautiful setting of redwood and pine trees at Mountain Home, July 18.

W. T. (Jake) Jacobson, Assistant Deputy State Forester, and George Winter, Field Representative for the Department of Corrections, made an inspection of the 13 semi-trailers

which consists of electrical generators, shops, warehouse, dormitories, kitchen, dining room, recreation hall, shower and lavatory facilities, water tanker, and offices for the Department of Corrections and Forestry personnel.

Jacobson and Winter gave their stamp of approval to Phil Olson, Forestry Superintendent, Conservation Camp. Phil Olson, "wagon master" of this city on wheels said, "The Camp will have 43 inmates, five Department of Corrections officers, and six Forestry people when the Camp is at full strength."

C. E. Metcalf
Deputy State Forester

KINGS COUNTY

What's new in Kings County? It was a girl for F.T.D. George and Helen Haley (Stratford). This makes Mechanic Jim Kirklin (Headquarters) a granddaddy again.

Pappy Allen (Kit Carson) is sporting a new Impala. Kirklin is doing the town in a new station wagon.

Most welcome news was the range increase for the boys effective July 1st. 'Nuf said.

We've been having very successful fishermen this season. Fish fries have included trout, perch, and abalone.

There is a great wave of activity now in this area due to the imminence of the Lemoore Air Base and the Armstrong Rubber Company. Traffic along 198 has trebled; subdivisions are now in the construction stage; big money is making big land investments, and everyone is busy planning.

It is interesting to note grain fires this season totaled an estimated loss of 10 acres. Harvester inspections and compliances are proving themselves.

To those who have not yet gone on vacation, you have something to look forward to - and to those who have returned, look back on the pleasant memories.

Asistant Ranger Luther Routt is whistling Dixie! Sponsoring Pitcher Steve Dibble and Catcher Richie Maccagno of Kings County, the Southern San Joaquin Valley Rural Firemen slaughtered the Northern nine 18 to 5 during the recent meeting held in Chowchilla.

It's a seven pound miss for the Jack Brantners. Our Kings County Forestry family seems to be having a monopoly on baby girls this year. We hope the next one will be a boy.

The department is putting the finishing touches on our exhibit area at the Kings County Fair which is scheduled to commence a four-day run soon. The eye-catcher this year will be the "Helicopter."

Just returned from my vacation today. (August 22) Haven't had much time to get posted on the events of the month. Will have more choice bits and pieces for you next month.

Florence P. Appell - Dispatcher-Clerk

MORE REGARDING RESEARCH PHYSICIST FINDS OLDEST SEQUOIA WOOD ON MOUNTAIN HOME FOREST

A new use has been found for old wood. This summer the Mountain Home State Forest was visited by Henry Michael, research associate for the Radiocarbon Laboratory, University of Pennsylvania. He took 400-pound samples for Carbon-14 analysis from stumps that are over 3,000 years old. Michael stated that although there are somewhat older Sequoia trees elsewhere, they are not sound at the center. The Mountain Home stumps have an unbroken series of rings, each of which has been dated, beginning with the year 1115.B.C. The rings on these stumps were first accurately dated by A. E. Douglass of the University of Arizona Tree-Ring Institute, based on samples he took in 1918.

The samples will be used to calibrate sensitive machinery developed for checking constancy of cosmic radiation by analyzing the carbon-14.

Michael explained that every living organism takes into its tissues a certain level of carbon-14. The carbon-14 begins to disintegrate upon the death of the organism. At first it gives off about 32 cosmic rays per minute, after about 5,600 years this count is reduced to 16 per minute.

It can be determined approximately how many years ago any organism died by counting the number of cosmic rays that it gives off per minute. The material must not be contaminated nor over 40,000 years old for the count to be accurate. The machinery is not sensitive enough to gauge material over 40,000 years old. It is used for dating wood, seeds, bones, etc., dug up in archeological work.

Mr. Michael made a strong plea that these valuable stumps be preserved from vandalism, weather conditions, and forest fires. Protecting them from natural decay without contaminating them is not a simple task, but ways and means of doing it are under consideration by the State Forest staff.

C. E. Metcalf, Deputy State Forester

MARIPOSA RANGER UNIT

Assistant Ranger A. W. (Bill) Jones and his wife, Maxine, welcomed a "spanken" new baby boy into their household on July 16, 1960, at 0930 hours. Statistics on the future Forester are:

Ray William Jones
Weight - 8 pounds, 14 oz.
Length - 20"
Quite a healthy young man!

Father is holding up well, although for a while he looked like he had just returned from a "campaigner."

Firetruck Driver John Boyer, of our White Rock Station, couldn't believe his eyes recently, while on a road check -- as coming down a narrow country road was a truck load of baled hay with flames leaping out from all sides!

John immediately flagged down the driver, had him unload his cargo at a wide spot in the road, remove the truck from the scene, and put out the baled hay. The baled hay (122 bales) was a total loss, but damage to the truck was minor. This quick action on the part of FTD Boyer possibly prevented a serious fire, as well as saving the truck driver injuries, had he panicked upon discovery of the fire.

Thanks again, John, for a job well done!

Thomas J. Perkins
Associate State Forest Ranger

MADERA RANGER UNIT

The troubled motorist trying to nurse his overheated car, like a balking mule, up the grade on Pacheco Pass can now obtain water through the courtesy of the Division of Forestry.

For years a fire truck has been patrolling the Pacheco Pass during the hours of the highest fire risk when drying winds and scorching sun evaporates the little remaining moisture from the surrounding vegetation.

Over the years, personnel from the Los Banos Forest Fire Station enroute to patrol the pass, were met by a perspiring owner of a stalled vehicle with boiling radiator and an unhappy family. Everyone knows that fire trucks carry water, so the stalled motorist would ask, with the look of hope in his eyes, "Could you give us enough water to get the car started again - we will be all right if we can get to the top of the hill." Needless to say, the radiator was filled and the family would happily drive away.

The fire patrol helped so many distressed motorists that the Forestry men began carrying an extra 5-gallons of water to satisfy the thirst of overheated engines.

With the increase in travel and added requests for this service, it became apparent there was need for a more permanent water supply to aid distressed motorists. To accomplish this, an old water tank which had at one time seen service at Basalt Lookout, was repaired, repainted and with the cooperation from Division of Highways, was converted into a water station alongside the road so the stranded motorists could help themselves. Don Pugh, Firefighter, painted an appropriate picture and signs in English and Spanish informing the motoring public the water is for radiators only, and not to be used for drinking.

The men on patrol have counted as many as a dozen trucks and cars clustered around the tank at one time taking on water.

The water tank is situated in a safe stopping area free from grass lessening the chances for roadside fires which could occur when vehicles are stopped on grass-covered lands.

R. N. Keepers
Assistant State Forest Ranger

LETTER TO RANGER GUM FROM PETER TEDESCO, CITY MANAGER, CITY OF SANTA CRUZ

"It has come to my attention that you and your Assistant Ranger, Mr. Del Curtis, provided us with a considerable amount of assistance and cooperation in extinguishing our dump fire on Monday evening, July 11. In addition to this, you have rendered material assistance to our fire department in allowing for a safer dump operation by eliminating serious brush and grass hazards in that vicinity.

"The City of Santa Cruz is highly appreciative of your efforts in our behalf and we take this opportunity to express both our appreciation and our high degree of confidence in you and in your department."

HAVE YOU THE COURAGE TO BE A GOOD SUPERVISOR?

(An article from the Roads and Streets Magazine written by Ross G. Henry, Training-in-Service Engineer for the Montana Highway Commission.)

It is a most complimentary and gratifying feeling, and gives one a sense of personal worth and accomplishment, to be made a supervisor. However, we soon find the job is not a place to bask in reflected glory. It definitely is no bed of roses. It takes courage, organization ability, and good sound reasoning to be a good supervisor.

At first we have visions of all of our subordinates liking and respecting us and anxious to do our slightest bidding. We soon find that this condition very rarely exists and is almost impossible to bring about. It would be nice to have a responsible position without having to assume the responsibility that goes along with the position.

If you desire to become, or now consider yourself a good supervisor, ask yourself the following questions:

Do you have the courage to let go of your specialty and begin to manage? Rather than suffer the frustrating experience of correcting someone else, it is often easier to shove him aside and do the job. It takes courage to forsake doing and start directing.

Do you have the courage to delegate authority, and accept blame if something goes wrong? Your subordinates must do their share of the work. They must also be given authority commensurate with the responsibility necessary to do the job. It takes courage to accept responsibility for work done by your subordinates, particularly mistakes.

Do you have the courage to recommend promotion for the best qualified men? Some supervisors are reluctant to recommend advancement for highly qualified personnel, for fear these men will become a threat to their own jobs. It also takes courage to listen to an employee when he disagrees, and if he is correct, it takes real courage to admit it.

Do you have the courage to communicate to your subordinates an unpopular decision, without blaming it on those above you? Anyone hates to be unpopular, particularly when it results from enforcing a decision made by higher authority. It also takes courage to accept the results, if you made the decision, and not to imply the decision originated elsewhere.

Do you have the courage to tell an employee his work is unsatisfactory, and to sit face to face with him when you make a merit rating, discuss his shortcomings and indicate he must improve if the merit rating indicates? It takes courage to do these things with an open and impartial mind.

Do you have the courage, after repeated attempts to get an employee to improve, to take what unfavorable action may be necessary and justified? It takes courage to accept this responsibility--rather than continue to issue satisfactory merit ratings and hope the trouble will go away, or try to transfer the employee and unload your troubles on someone else.

Do you have the courage to accept the good with the bad? There are many things in the life of a supervisor which are pleasant and gratifying. However, part of the job is hard and disagreeable. Learning the techniques of supervision is a waste of time unless you have the fortitude to do the job. It takes real courage to perform well and to be a good supervisor.

LETTER TO RANGER SCHERMAN FROM C. M. NELSON, SUPERVISOR FIFTH DISTRICT, COUNTY OF ORANGE

"I want to commend you and your entire staff for the splendid work which was performed during the lightning storm of a few days ago.

"Time is of great importance in controlling fire, and it is gratifying to know that your Department functioned so capably. It is in times of emergency that both experience and knowledge become most valuable assets.

"I am confident that the entire Board is in agreement with me when I express my sentiment in saying 'A Job Well Done'."

DISTRICT VI

District VI can really sing "How Dry I Am." Each year, we have several wells go dry; and, consequently, we either deepen them or drill in new locations. This year, we received a new "out." We hooked our Ramona Station to the Metropolitan Aqueduct (Colorado River water) as we had previously done at our Rainbow Camp. However, some of our stations don't have an aqueduct nearby, so Campo is now hauling its water and Trabuco may soon do so.

Good news came recently to Leroy Rockwell and Chuck Barton. Leroy made Assistant Ranger, and Chuck made Assistant Technician.

Not so good news is that Foreman Durwood Stanford will be in the hospital well into October; Foreman Eugene "Juicy" Smith is going in September 7th for a back injury; FEO Pete Miller is in his fourth month of being home or at the hospital for more work on his (1958) burned hands; Foreman Luther Dean is still on Sick Leave (since April 22nd); and, better news, Carpenter Hank Nelson is recovering from an operation.

One of the things that makes for more problems and fires here is our multitude of people and their actions; for instance, 7½ million yearly visitors in the San Bernardino National Forest. Recently, some of these people caused us to temporarily discontinue a fire-break job. An inmate crew was swinging away when along came six beautiful college girls and set up a badminton net and started swinging. For some reason, the inmates stopped swinging. The bad old foreman decided there were too many people around to get any work done, so he took his charges back to camp.

D. M. Glenn, District VI Dispatcher

SOUTHERN CALIFORNIA TRAINING CENTER

During the period of August 1 through 20, 1960, the Training Center staff (Ranger Francis and Associate Ranger Russell) made a Training Survey through Districts I, II, IV, and V. We visited 5 District Offices, 20 Ranger Units, 4 CDC Camps, 1 CYA Camp and interviewed some three dozen graduates from Driver and Foremanship classes. During this time we called at 35 Fire Control Stations, both Schedule "A" and "B". The objectives of the Survey were to determine the results of the Training Center program after having been in operation for three years, to ascertain if the program is accomplishing what is actually needed by the field supervisors and for the Driver and Foreman in the field; also to determine what adjustment we may need to make in the program to better train the graduates to do their field job.

In talking to the field people, we got some pretty definite suggestions, ideas, and comments, which we are now in the process of working into our present lesson plans and over-all Training Center Operations.

This survey has accomplished many things for the Training Center Staff in that it gave us an opportunity to actually observe first-hand and right on-the-ground many of the problems of the Ranger Units. We feel that for having done this we will be able to turn out a better "product" from the centers.

To all the employees we contacted, from Deputies to Drivers, the Southern California Training Center Staff wishes to express their sincere appreciation and thanks for all your time, effort, cooperation and frank comments that made the survey so successful. It was a great pleasure to meet old friends again and to make so many new ones.

W. G. Francis, State Forest Ranger
D. L. Russell, Associate State Ranger

SAN BERNARDINO COUNTY

The Robert Clanton family of the California Division of Forestry, Devore Fire Control Station, are the proud recipients of an 8 pound, $\frac{1}{2}$ ounce son, Donald Richard. This new apparatus was delivered at Saint Bernardines Hospital, 6:20 A.M., Sunday, August 14, 1960.

Although this new apparatus did not arrive with the equipment ordered, we have been advised that the fuel consumption is normal; and to date, there have been few night rolls. All tests have been met, approved and accepted by the parents.

Frank H. Lemelin, FFF

25-YEAR AWARD - THOMAS G. BRYAN, ASSOCIATE STATE FOREST RANGER

Twenty-five years of active service in the California Division of Forestry were recognized yesterday when Deputy State Forester for Southern California, James K. Mace, presented Associate Ranger Thomas G. Bryan of San Bernardino a 25-year pin and certificate. The presentation was made during the noon luncheon at the Riverside Elks Club attended by the leading forest firefighting authorities of Southern California.

Associate Ranger Bryan started his career with the Division of Forestry as an Assistant Ranger in Shasta County in August of 1935. He worked in this capacity in many of the Mother Lode counties where he was born. In 1940, he worked for Deputy Mace, who was then the Ranger in charge of Calaveras County. Many of the fire control stations and lookouts in the land of the '49ers were built under his supervision. Here he also gained valuable firefighting experience.

In 1944, he was transferred to the District III headquarters of the Division of Forestry in North Sacramento where he acted as assistant to the Deputy State Forester as Office Manager. While in this position, he was given a duration Ranger appointment.

The firefighting team of San Bernardino County was strengthened in 1947 when he was transferred to the Southern California District as an Associate Ranger. He acted as Chief Administrative Officer for W. W. "Butch" Skinner, State Forest Ranger for San Bernardino County until 1956, when he left and returned to District III Headquarters in North Sacramento for two years. After this assignment, he again returned to his former Associate Ranger position with Ranger Skinner. Deputy Mace pointed out that Associate State Forest Ranger Bryan has given unselfishly of his time and energy in helping to protect the watersheds and recreational areas of San Bernardino County. His experience and knowledge of forest fire behavior have contributed greatly to the protection of life and property in the highly used and enjoyed San Bernardino mountains.

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